

EXHIBIT J

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8 *Attorneys for Plaintiff*
9 PUSH DATA LLC

10 UNITED STATES DISTRICT COURT
11 FOR THE CENTRAL DISTRICT OF CALIFORNIA
12 WESTERN DIVISION

13 PUSH DATA LLC,

14 Plaintiff,

15 v.

16 GUCCI AMERICA, INC., an American
17 company; and GUCCIO GUCCI, S.P.A,
18 an Italian company,

19 Defendant.

Case No.:

**DECLARATION OF
ERIC MORGAN DOWLING IN
SUPPORT OF COMPLAINT**

1 I, Eric Dowling, declare as follows:

2 **I. BACKGROUND INFORMATION**

3 1. My name is Eric Morgan Dowling. I reside at Ave 30, Calle 154,
4 Cond. Cartagena Real #4, Escazu, San Jose, Costa Rica.

5 2. This declaration is based on my own personal knowledge.

6 3. I am one of the named inventors of U.S. Patent Nos. 6,983,139 (the
7 “’139 patent”), 7,058,395 (the “’395 patent”), 7,212,811 (the “’811 patent”), and
8 7,292,844 (the “’844 patent”) collectively, the “patents in suit”).

9 4. I, Eric Morgan Dowling, along with Duncan Leo MacFarlane and
10 Mark Nicholas Anastasi are the inventors of the patents in suit (collectively, the
11 “Inventors”).

12 5. I am also one of the named inventors of U.S. Patent No. 6,574,239
13 (the “’239 patent”) incorporated by reference into each of the patents in suit. The
14 other inventor of the ’239 patent is Mark Nicholas Anastasi.

15 6. Each of the patents in suit incorporates by reference the specification
16 of then co-pending application 09/167,698, filed October 7, 1998, which issued as
17 the ’239 patent.

18 7. Each of the patents in suit has the same figures and the same
19 substantive written description, although column and line number citations may
20 differ slightly due to the U.S. Patent and Trademark Office’s clerical data. Hence
21 in this Declaration I will focus on discussing the ’395 patent.

22 8. On information and belief, Push Data LLC (“Push Data” or
23 “Plaintiff”) is the assignee and owner of the right, title and interest in and to the
24 patents in suit, including the right to assert all causes of action arising under said
25 patents and the right to any remedies for their infringement.

26 9. I understand Push Data intends to file a Complaint for infringement of
27 the patents in suit against Gucci America, Inc. and Guccio Gucci, S.p.A.
28 (collectively “Gucci” or “Defendants”).

1 10. I make this declaration in support of Push Data's Complaint against
2 Gucci in the above-captioned action.

3 **II. QUALIFICATIONS AND EXPERIENCE**

4 11. I hold three degrees from the University of Florida: (1) a Bachelor of
5 Science degree in Electrical Engineering earned in 1984; and (2) a Master of
6 Science degree in Electrical Engineering earned in 1986; and (3) a Doctor of
7 Philosophy (Ph.D.) in Electrical Engineering earned in 1989.

8 12. From 2011–2018, I acted as President of Texas Trellis Phase, LLC,
9 and general partner of Trellis Phase Communications, LP. As such, I was
10 responsible for leading a research and development company developing next
11 generation physical layer communication technologies for DSL, Cable Modems,
12 WiFi, Bluetooth, Digital CATV Transmission, Terrestrial HDTV Transmission,
13 and Cellular Communications.

14 13. Since 1995, I have acted as a Consultant in patent-related projects,
15 providing consulting services related to, for example, patent infringement,
16 noninfringement, and validity analysis, product/standards research, and litigation
17 and cross licensing support. A partial list of these past clients include: Microsoft,
18 AT&T, Tellular, Telesys, Harris Corp, Hughes, Thompson, GE, Raytheon,
19 Paradyne, Samsung, J2 Communications, LSI Logic, ARC International,
20 Enterprise Partners, Solar Products, EKMS, BTG, VSI, Core Enterprises, Baker
21 and Botts; McKool Smith; Adduci, Manstrian and Schamuberg; Knobbe Martens
22 Olson & Bear; Fulbright and Jarwoski; Merchant and Gould; Weil Gotshal, and
23 Manges; Lerner and Greenberg; Klarquist Sparkman; Workman Nydegger;
24 Gazdzinski and Associates; Kaplan & Gilman; Hamman and Benn; Marshal,
25 Denehey, Warner, Coleman & Goggin; Carstens, Yee & Cahoon, others not
26 disclosed due to NDAs.

27 14. From 1989 to 2001, I was employed as a professor at the University of
28 Texas, Dallas. First, from 1989-1995, I served as an Assistant Professor of

1 Electrical Engineering. Then, from 1995-2001, I served as an Associated
2 Professor of Electrical Engineering, with tenure.

3 15. In addition, from 1985-2001, I acted as a Consultant in electrical
4 engineering projects, focusing on design. For example, some clients during these
5 years include: DGI Technologies Inc, focusing on DSP Microprocessor based Real
6 Time T1 Network Echo Canceller; Micron Technology Inc., wherein I consulted
7 on the design of processors and embedded DRAM systems; Pinpoint
8 communications Inc., focusing on radio direction finding for RF identification;
9 DTex Inc., focusing on design of algorithms, DSP processing board, and
10 DSP56L811 DSP software to implement an advanced ultra-sensitive metal
11 detector; Raytheon / E-Systems, focusing on design of Digital Signal Processing
12 Software for a Military Mobile Telecommunications Switch; INET Corp., focusing
13 on Design of Equalizers for T-Carrier Wireline Transmission Systems; US Naval
14 Undersea Warfare Center, focusing on Adaptive Sonar Signal Processing
15 Software; Ultimate Technologies Inc., focusing on Research and Design of Active
16 Noise Control Systems; Alcatel Network Systems, focusing on Microprocessor
17 Systems Design - On Site Training; Nortel, focusing on Digital Signal Processing
18 - On Site Training; University of Texas Southwestern Medical Center, focusing on
19 design of algorithms for Biomedical Signal Processing, Electrospace Systems Inc.,
20 focusing on design of DSP algorithms for noise cancellation; and Athena Group,
21 Inc., focusing on NSF SBIR Contracting and DSP Software.

22 **III. MATERIALS CONSIDERED**

23 16. I have considered the materials listed in this declaration as well as the
24 '139 patent, the '395 patent, the '811 patent, and the '844 patent, the incorporated-
25 herein-by-reference patent application that issued as the '239 patent, and their
26 prosecution histories, as well as related patents.

27 17. I am being compensated at my regular and established rate of \$250
28 per hour. My compensation is not dependent on the outcome of this proceeding.

IV. TECHNOLOGICAL PROBLEMS SOLVED BY THE PATENTS

A. The Invention

18. The patents in suit resulted from the pioneering efforts of the Inventors in the areas of wireless Internet services, wireless push notifications, geo-location based services, targeted data dissemination to wireless mobile units, and quickly-resumed wireless communication sessions.

19. These efforts resulted in the development of geographical web browser, methods, apparatus, and systems.

20. While the existing technologies provided valuable benefits, no technology existed to provide local broadcast information to automatically control a network application, such as a web browser or other applications, by selectively filtering broadcast information using a packet filter. Instead, the technology at the time required a user to select an icon or manually navigate to information specific to a local area.

21. The Inventors set out to cure these deficiencies, providing an overall benefit to a user. Specifically, the patents in suit were conceived to provide a user with the capability to receive information based on that user's position.

22. When developing the invention, the Inventors noted that typically, systems relied on the use of "cell data" for positional purposes. This cell data only provided a coarse idea of a user's position.

23. As such, the Inventors contemplated the benefits of using, for example, locally pushed wireless packets, e.g., local broadcast domain packets, or GPS location data, providing a much more defined set of data that presents more opportunities for individualized transmissions. In addition, the Inventors set out to allow the data used in these systems to be updated based on unsolicited pushed information packets which could trigger, for example, downloading of related information from the Internet.

1 24. The Inventors solved these and other problems by providing systems
2 and methods to enable a mobile unit to maintain a first network connection with a
3 central server and to control information flow on this connection using information
4 received on an auxiliary channel.

5 25. For example, such systems and methods include receiving one or
6 more preferences from a user, receiving at least an approximate geographical
7 location of a particular user's mobile device or unit, identifying an information
8 item that aligns with both the users one or more preferences and is associated with
9 the location of the user's device or unit, and causing information related to the
10 identified information item to be wirelessly transmitted, via a push message, to the
11 user's device without the need to maintain an active user-interactive client-server
12 application layer at all times.

13 26. Figure 1 of the '395 patent shows an exemplary overview of the
14 invention of the asserted patents. In this example, mobile unit 105 is connected to
15 both a first network connection 112, e.g., a cellular data network, and a second
16 network connection 113, e.g., a WiFi type network coupled through the Internet.
17 The '395 patent describes that a local broadcast domain entity is, for example, a
18 low power wireless local area network that can be connected to the cellular system
19 or directly to the Internet 113, like a modern-day WiFi access point.

20 27. The exemplary mobile unit also includes a GPS receiver in
21 communication with at least one GPS satellite 155. The '395 patent teaches that
22 the exemplary mobile unit 105 shown in Figure 1 need not be vehicle mounted but
23 can be implemented as a handheld unit. That is, the architecture of Figure 1 is
24 what has now been ubiquitously adopted in modern wireless systems via
25 smartphone and tablet technologies.

26 28. As stated above, each of the patents in suit incorporates by reference
27 then co-pending application 09/167,698, which issued as the '239 patent.
28 Accordingly, certain concepts of the 09/167,698 application are specifically

1 disclosed to be used in combination with the inventions of the '139 patent, the '395
2 patent, the '811 patent, and the '844 patent. Many of the claimed inventions in the
3 patents in suit are bolstered by the incorporated-by-reference material.

4 29. For instance, certain exemplary disclosures in the patents in suit
5 describe blocks that refer to the incorporated-by-reference disclosure of the '239
6 patent. The '239 patent explains that the mobile unit 105 corresponds to the
7 remote unit 100 of Figure 1 and Figure 2 of the '239 patent disclosure.

8 30. Embodiments involving virtual sessions with suspend/resume
9 capabilities and push-specific aspects rely on the incorporated-by-reference co-
10 pending patent application that eventually was patented as the '239 patent. These
11 include an application identifying field, virtual sessions, and certain aspects of the
12 outbound push services.

13 31. Certain inventive concepts developed by the Inventors involved
14 technologies that could allow wireless push messages to be sent to one of a
15 plurality of installed application programs ("Apps") loaded into a user's mobile
16 device like a smartphone or a tablet computer.

17 32. Push messages would preferably be sent over virtual sessions which
18 had stored session parameters, such as what is now implemented in modern day
19 TLS (Transport Layer Security) sessions right below the application layer.

20 33. An application-specific identifier would allow the push message to be
21 routed to a specific corresponding client-side App. The mobile unit would be
22 constructed with two wireless air interfaces, one to a data service supplied by a
23 cellular communications network, and another to a local broadcast domain entity
24 such as a WiFi access point. At different times wireless push messages could be
25 received via one or the other of these air interfaces.

26 34. Certain inventive concepts involved pushing a message to an App
27 loaded into the mobile unit 105 (as disclosed in the '395 patent). In response to the
28 push message, a corresponding virtual session, such as a TLS session, can be

1 reactivated between an App and the application server. Depending on the claimed
2 embodiment, this TLS session reactivation can be done automatically or in
3 response to making a user selection of a graphical user interface object that is made
4 available to the user by the mobile unit 105 in response to the received push
5 message.

6 35. The Inventors contemplated that the pushed information could include
7 application content or could instead include an address or reference to server-side
8 content. This provided a way to send a push notification with address related
9 information in it, so that the App receiving the push notification could later request
10 further content to be downloaded from the application server using the address
11 information supplied in the push notification message.

12 36. The patents in suit, among other things, also teach the concept of
13 sending a push notification to a corresponding App that could then automatically
14 download further content related to the push notification from the application
15 server, without the need for the address to be specifically embedded into the push
16 notification. This allows Apps to automatically perform client-server sync
17 operations in response to a push notification message. In modern day systems, this
18 corresponds, for example, to the Android data message type of push notification
19 message.

20 37. The Inventors specifically contemplated embodiments that involve
21 using both the cellular and the WiFi connections at different times to support the
22 same wireless push service. For example, the initial configuration part can be
23 performed using the cellular air interface. Later, the actual push can come in over
24 the WiFi air interface. The mobile unit can roam back and forth between the
25 cellular-data and WiFi air interfaces at will and the push service can still operate.
26 Automated processing such as background application refresh operations can be
27 performed in response to the push message.

1 38. The Inventors conceived that it would be advantageous to send a push
2 message having an application identifying field, so that the user's handset could
3 determine to which one of a plurality of installed applications the push message
4 should be directed.

5 39. As disclosed in the '395 patent, for example at Figures 3-5b and the
6 related written descriptions, among other places, the push message can optionally
7 cause a user-selectable user interface object to be made available to the user. Upon
8 user selection, the further content can be downloaded either from address-related
9 information supplied in the push message or by triggering a client-server sync type
10 operation. The data content of the push message can be used to automatically
11 determine what actions to take at the mobile unit 105.

12 40. While developing their invention, the Inventors contemplated that
13 user interest information would also be advantageously used with mobile wireless
14 push services. For example, an application server can receive from some
15 unspecified source information about the user's interests. In some embodiments
16 the user can identify the categories of interest directly through the client-side
17 application to the server-side application. In this example or others, the wireless
18 push notification can then be sent to the corresponding user's mobile unit
19 conditioned on the user's interests, as indicated by data structures maintained at the
20 application server or coupled to the application server.

21 41. The Inventors also developed methods for geo-location sensitive push
22 notifications. The Inventors conceived that the GPS function could be built into
23 the handset, and also that the handset could have a local broadcast domain
24 connection, such as to a WiFi access point. Depending on the embodiment, the
25 user's mobile unit's location can be ascertained from the GPS information sent
26 from the mobile unit, or it can be ascertained from stored information that
27 correlates the WiFi access point to a geo-location where the WiFi access point is
28 physically located. For example, a given restaurant or store location can be

1 recognized by a user device connecting through that location's public WiFi
2 channel. Efficient location-based wireless push services can use user-interest
3 information plus the current location of the mobile unit to decide what kinds of
4 push content the user would most likely be interested receiving at a particular
5 moment. This provides geographical web browser-like functionality using push
6 services and different types of Apps.

7 42. The Inventors also contemplated that certain applications might use a
8 wireless client-server communications link to perform geographical web browser
9 type operations. In this case the client informs the server of, for example, a user
10 interest. The user interest can then act like a search request. As the mobile unit
11 moves around, its GPS coordinates are periodically uploaded, or the physical
12 locations of the access point to which the mobile unit is connected can be
13 ascertained. If the mobile unit comes within the geographical vicinity of a point of
14 presence that meets the user interest request, the wireless client-server session can
15 be resumed from an inactive state to an active state and the server response can be
16 sent to the mobile unit over this wireless client-server connection, which may be a
17 virtual session that is resumed from an inactive state to an active state.

18 43. For example, if a user sets his or her interest to hotels and drives
19 around, graphical user interface would automatically update and show the nearby
20 hotels. This embodiment that can be used in certain location-based type client-
21 server Apps.

22 **B. Exemplary Improvements Recited in Specific Claims**

23 44. The inventions of the patents in suit resolve technical problems related
24 to client-server computing architecture. The claims of the patents in suit do not
25 merely recite the performance of some business practice known from the pre-
26 Internet world along with the requirement to perform it on the Internet. Instead,
27 the claims of the patents in suit recite one or more inventive concepts that are
28 rooted in computerized client-server computing communication technology and

1 overcome problems specifically arising in the realm of computerized client-server
2 computing architecture technologies.

3 45. The claims of the patents in suit recite an invention that is not merely
4 the routine or conventional use of computers. Instead, the invention makes use of
5 specific client-server computer architecture functionalities. The claims of the
6 patents in suit thus specify how computing devices and remote servers are
7 manipulated to yield a desired result.

8 46. Specific claims in the different patents in suit recite different specific
9 client-server functionalities. For example, the asserted '844 patent claims recite
10 inventions that send a push message to an App on a remote unit that uses an
11 application-program-identifying field to identify the target App. The push message
12 carries address information from which the App can download further information
13 over a resumed virtual session between the App and its respective server. In other
14 of the '844 claims, different specific mobile-wireless network configurations are
15 recited and specific client-server functionalities are recited where the client sends a
16 request to a server, the server then sends a response that indicates the availability
17 of new data for the App at the server, in response to this notification, the App then
18 sends another request to pull the content from the server, and the server thus
19 responds to the request and allows the client side App to synchronize with the
20 server. All asserted claims of all asserted patents contain different recitations of
21 specific wireless network configurations and different specific client-server
22 functionalities needed to achieve the specific technological result of each asserted
23 claim.

24 47. In the paragraphs below, the asserted patent claims will be described
25 in some level of detail and specific information will be provided to explain why
26 these claimed inventions correspond to novel and non-obvious improvements to
27 computer functionality, specifically in the technological area of client-server
28 mobile computing systems. This technological area is understood to mean

1 smartphones, tablets, laptops with WiFi, and the different server-side application
2 servers with which they interact. In many cases there will be a smartphone or a
3 tablet that has a number of different application programs (Apps) installed, and
4 each installed App will be in communication with a respective application server
5 that services the respective particular installed App on the mobile unite such as a
6 smartphone or tablet.

7 48. In the discussions below, it should be noted that the features began to
8 emerge well before the time of the expiration of the patents in the late 2018 time
9 frame and beyond. The bulk of the features described in the paragraphs below
10 began to become into common use by 2014. For example, push technologies
11 provided by Mozilla Firefox came out in 2013, with improved push notifications
12 updated by December of 2013. These technologies are what have evolved into
13 modern Android push technologies. Hence it is to be understood that the push
14 technologies and other technologies used in Android were largely available by
15 2014 or 2015 at the latest.

16 49. The paragraphs below each discuss a particular corresponding
17 asserted patent claim. The claims come from different patents and have different
18 claim numbers. The paragraphs below are ordered in accordance with the subject
19 matter of the claims, not in accordance with claim number or patent number. The
20 logic behind the ordering will become clear upon reading the paragraphs in
21 sequence.

22 50. Claim 1 of the '844 patent recites a server-side method for use with a
23 server that communicates with a particular mobile unit. Claim 1 of the '844 patent
24 recites that "the particular mobile unit is configured to execute a plurality of
25 application programs and to wirelessly receive an incoming communication from a
26 particular one of the network servers of the one or more network servers, read an
27 application-program identifying field contained within the incoming
28 communication to identify a particular application program resident on the

1 particular mobile unit to which at least a portion of the incoming communication is
2 to be directed.” The ’844 Claim 1 also recites: “causing the incoming
3 communication to be wirelessly transmitted to the particular mobile unit, wherein
4 the incoming communication includes the application program identifying field
5 that identifies the particular application program and contains an address indicating
6 from where further content is available to be downloaded.” The ’844 Claim 1 also
7 recites: “wherein the incoming communication acts as a notification to allow the
8 particular mobile unit to download the further content by transmitting the client-
9 request packet and receiving the further content located at the address contained in
10 the incoming communication.” Other aspects of the claim language relate to a
11 virtual communication session that is used as opposed to a standard client-server
12 communication session. Taken as a whole, Claim 1 of the ’844 patent provides an
13 improved computer functionality that allows mobile internet client server systems
14 to operate more efficiently, and to be more practical and useful. This enables
15 improved and more efficient push protocols for systems where the mobile unit
16 houses multiple different Apps. A specific push message (“incoming
17 communication”) is sent to a specific application that resides on the particular
18 mobile unit. An application program identifying field is included in the push
19 message to enable this functionality. The push message also contains an address
20 that enables the target application to download further information that is ready for
21 the application to download from the server. This type of functionality was novel
22 and non-obvious at the time the invention was made in 1998, but by 2014, these
23 inventive concepts have been widely adopted for use in modern push based mobile
24 client-server communication systems involving push notifications being sent from
25 servers to Apps installed in the mobile unit.

26 51. Claim 4 of the ’395 patent recites a server-side method for use with a
27 server that communicates with a particular mobile unit. Claim 4 of the ’395 patent
28 recites that: “the particular mobile unit is configured to wirelessly receive pushed

1 information, read an application-program identifying field contained within the
2 pushed information to identify a particular application program resident on the
3 particular mobile unit, and to present to the user via the graphical user interface a
4 selectable indication, such that when the selectable indication is selected by a user
5 selection, further content related to the particular application program will be
6 downloaded to the particular mobile unit.” Claim 4 of the ’395 patent also recites
7 the server: “causing a communication push message to be wirelessly transmitted to
8 the particular mobile unit, wherein the communication push message includes the
9 application-program identifying field that identifies the particular application
10 program and contains information related to the further content available for
11 downloading in response to the user selection;” “receiving a client-request packet
12 wirelessly coupled from the particular mobile unit in response to the user selection,
13 the client-request packet indicating a request to download the further content;”
14 “wherein the communication push message acts as a notification to allow the user
15 to selectively download the further content only if the user is interested in
16 receiving the further content.” Other aspects of Claim 4 of the ’395 patent explain
17 that the push message is not sent as an immediate response to a client-request
18 packet, and that the server sends the requested information. The claim language of
19 Claim 4 of the ’395 patent provides a specific improvement in computer operation
20 and functionality in client-server mobile communication systems. The push
21 message has the application-program identifying field to identify a specific target
22 application on the particular mobile unit. The push message also contains
23 information related to further information available on the server ready to be
24 downloaded into the specific target application program. The claimed invention of
25 Claim 4 of the ’395 patent also allows to the further information to be downloaded
26 in response to a user selection. This type of push-assisted client-server system
27 functionality was novel and has been adopted in modern push based mobile
28 systems. It represents a specific advancement in computer functionality that has

1 made push based mobile client-server communications ubiquitous and popular in
2 today's modern systems. In modern Android systems, this user-selection
3 functionality is partially implemented using the ubiquitous "notifications panel."
4 When the push comes into the App, the push becomes visible in the notifications
5 panel. If the user is interested in interacting with the pushed content, the user can
6 select the push notification message in the notification panel and cause the App to
7 be opened in such a way that the downloaded information becomes accessible.
8 This inventive concept represented an important advancement in modern mobile
9 handheld systems that was not a known computer functionality or computer
10 operation until after the invention was made in late 1998.

11 52. Claim 5 of the '811 patent recites a server-side method for use with a
12 server that communicates with a particular mobile unit. Claim 5 of the '811 patent
13 recites that: "the particular mobile unit is configured to wirelessly receive an
14 incoming communication from a remote application server of the one or more
15 network servers, read an application-program identifying field contained within the
16 incoming communication to identify a particular application program resident on
17 the particular mobile unit, and to present to the user via the graphical user interface
18 a selectable indication, such that when the selectable indication is selected by a
19 user selection, further content related to the particular application program will be
20 downloaded to the particular mobile unit." Claim 5 of the '811 patent also recites
21 the server: "causing the incoming communication to be wirelessly transmitted to
22 the particular mobile unit, wherein the incoming communication includes the
23 application-program identifying field that identifies the particular application
24 program and contains information related to the further content available for
25 downloading in response to the user selection," "the incoming communication is
26 coupled at least partially via a virtual communication session implemented at one
27 or more layers below the application layer" "receiving a client-request packet
28 wirelessly coupled from the particular mobile unit in response to the user selection,

1 the client-request packet indicating a request to download the further content;”
2 “wherein the incoming communication acts as a notification to allow the user to
3 selectively download the further content only if the user is interested in receiving
4 the further content.” The claim language of Claim 5 of the ’811 patent provides a
5 specific improvement in computer functionality in client-server mobile
6 communication systems. The push message has the application-program
7 identifying field to identify a specific target application on the particular mobile
8 unit. The push message also contains information related to further information
9 available on the server ready to be downloaded into the specific target application
10 program. This particular version of the claimed invention also allows to the further
11 information to be downloaded in response to a user selection. Also, Claim 5 of the
12 ’811 patent more specifically defines the virtual session used to support this type of
13 push-assisted mobile client-server communications. In modern day Android based
14 servers and mobile handsets, transport layer security (TLS) is built into the
15 communication protocol to make such transactions secure and practical for mobile
16 use. This overall claimed type of push-assisted client-server system functionality
17 was novel at the time of the invention and has since been adopted for use in many
18 modern push based mobile systems. The ability to send a push addressed directly
19 to the App, over a virtual session (like TLS), and to identify further content to be
20 downloaded upon user selection is now a basic part of mobile operating systems
21 like Android. This ability is used by applications companies that provide server
22 side applications and client side Apps. This represents a specific advancement in
23 computer functionality that has made push based mobile client-server
24 communications ubiquitous and popular in today’s modern systems. Without the
25 recited functionality, many modern push-based applications would not be able to
26 function. In modern Android systems, this user-selection functionality is partially
27 implemented using the ubiquitous “notifications panel.”
28

53. Claim 25 of the '844 patent recites a server-side method for use with a server that communicates with a particular mobile unit. Claim 25 of the '844 patent recites: "A method for use in a system comprising a wireless handheld device that includes first and second transceivers configured to be selectively wirelessly coupled to a first wireless packet network access station provided by a base station of a cellular communications network and a second wireless packet network access station that uses a low-power wireless local area network air interface whose coverage area is substantially smaller than a coverage area provided by the first wireless packet network access station." Note that this architecture of the wireless handheld that has both a cellular air interface and a wireless local area network air interface (e.g., WiFi) is now in ubiquitous use. As specifically recited in Claim 25 of the '844 patent, at the time of the invention, in 1998, it was not yet known to have mobile application programs installed on the handset that performed synchronization operations with a remote server-side application program while the wireless handheld device moved around and switched back and forth between both air interfaces in a seamless manner. Claim 25 of the '844 patent also recites: "a method comprising:" "the remote server system receiving a first request coupled thereto from the wireless handheld device via the first wireless packet network access station;" "the remote server system transmitting a server response to the wireless handheld device, the server response including an indication of availability of content related to the first request;" "the remote server system receiving a second request coupled thereto from the wireless handheld device, wherein the second request is automatically generated by the wireless handheld device in response to the server response, without requiring user action, and the second request is coupled via the second wireless packet network access station; and" "the remote server coupling the available content related to the first request to the wireless handheld device, via the second wireless packet access station." This method has become ubiquitous and has led to well-known improved

1 computer operation and functionality known as “application-auto-
2 synchronization,” and “background application refresh.” In Android based
3 systems, this functionality is implemented using “Android data messages.” This
4 method provides a mechanism of enhanced computer functionality that is the basis
5 for enhanced and efficient protocols that are now in common use but were not
6 known at the time of the invention, in 1998. The main novel inventive idea can be
7 summarized as having the application on the wireless handheld unit send
8 information to the remote server system that causes a data channel (e.g., a push
9 data channel) to be configured related to a “first request” that corresponds to a
10 specific type of information application channel. Once this logical channel is
11 established, when the server has new information for the specific application
12 program in the wireless handheld unit, the server sends a server response message
13 (e.g., a push message in Android data message format) to the wireless handheld
14 unit. In response to this push-data message, the wireless handheld unit
15 automatically sends a second request (response message to the push-data message).
16 No user action is needed for the second request message to be sent from the
17 wireless handheld unit in response to the push-data message. Once this
18 automatically generated second request message is received at the server, the
19 server sends the new available content to the application program operating on the
20 wireless handset. This claim language represents a very specific improvement in
21 computer functionality that is the basis for application-synchronization,” and
22 “background application refresh.” This method also sets up the basic construct for
23 “Android data messages.” This method is the basis for improved, more efficient
24 mobile communications network protocols that are used billions of times per day
25 all over the world. In claim 25 of the ’844 patent, the first request is coupled over
26 the cellular network while the second request is coupled over the WiFi network.
27 Hence Claim 25 of the ’844 patent additionally recites an additional novel
28 inventive concept whereby a single application program that resides on a single

1 wireless handheld unit seamlessly roams between the cellular and WiFi networks
2 while implementing the above-mentioned novel and improved computer
3 functionality. These inventive concepts are now in modern common practice. Yet
4 at the time of the invention, back in late 1998, seamless roaming between cellular
5 and WiFi networks while executing background application refresh and client-
6 server application data synchronization type operations using the recited efficient
7 protocol was completely novel and not yet in practice.

8 54. Claim 32 of the '844 patent recites a server-side method for use with a
9 server that communicates with a particular mobile unit. Claim 32 of the '844 is
10 similar to Claim 25 of the '844 patent, but does not specifically recite the concept
11 of seamless roaming between the cellular network and the WiFi type network.
12 Either or both types of networks can be used to satisfy Claim 32. Claim 32 of the
13 '844 patent recites: “the method comprising:” “the particular server receiving a
14 first request coupled thereto from the particular mobile unit via the particular
15 wireless packet network access station and via the packet switched data network;”
16 “the particular server coupling a server response to the particular mobile unit, the
17 server response including an indication of availability of content related to the first
18 request;” “the particular server receiving a second request coupled thereto from the
19 particular mobile unit, wherein the second request is automatically generated by
20 the particular mobile unit in response to the server response, without requiring user
21 action; and” “the particular server coupling the available content related to the first
22 request to the particular mobile unit.” The main novel inventive idea can be
23 summarized as having the application on the particular mobile unit send
24 information to the particular server system that causes a push data channel to be
25 configured related to a “first request” that corresponds to a specific type of
26 information application channel. Once this logical channel is established, when the
27 particular server has new information for the specific application program in the
28 particular mobile unit, the particular server sends a server response message (push

1 message in Android data message format) to the particular mobile unit. In
2 response to this push-data message, the particular mobile unit automatically sends
3 a second request (response message to the data message). No user action is
4 needed for the second request message to be sent from the particular mobile unit in
5 response to the push-data message. Once this automatically generated second
6 request message is received at the server, the server sends the new available
7 content to the application program operating on the particular mobile unit. This
8 claim language represents a very specific improvement in computer functionality
9 that is the basis for application-synchronization,” and “background application
10 refresh.” This method also sets up the basic construct for “Android data
11 messages.” This method is the basis for improved mobile communications
12 network protocols that are used billions of times per day all over the world. Yet at
13 the time of the invention, back in late 1998, mobile units executing background
14 application refresh and client-server application data synchronization type
15 operations using the recited efficient protocol was completely novel and not yet in
16 practice.

17 55. Claim 37 of the '844 patent recites a server-side method for use with a
18 server that communicates with a particular mobile unit. Claim 37 of the '844 is
19 similar to Claim 32 of the '844 patent, but specifically recites the use of a virtual
20 session server in addition to the particular network server. The virtual session
21 server acts to provide transport layer security (TLS) functions that operate between
22 the mobile unit and the particular network server. In modern day systems, the
23 inclusion of a TLS layer server function between the application residing in the
24 mobile unit and application operating on the particular network server is now an
25 important required function for all client and server applications that operate within
26 the Android operating system environment. Claim 37 of the '844 patent recites:
27 “the method comprising:” “establishing a communication session between the
28 mobile unit and the virtual session server via the particular wireless packet access

1 station, using the at least one wireless air interface;” “the particular network server
2 receiving a first request coupled thereto from the mobile unit at least partially via
3 the communication session;” “the particular network server coupling a server
4 response to the mobile unit, the server response including an indication of
5 availability of content related to the first request;” “the particular network server
6 receiving a second request coupled thereto from the mobile unit, wherein the
7 second request is automatically generated by the mobile unit in response to the
8 server response, without requiring user action; and” “the particular network server
9 coupling the available content related to the first request to the mobile unit;” (...)
10 “wherein the first request is received by the virtual session server and forwarded to
11 the particular network server during a first active state of the communication
12 session, and the second request is received by the particular network server during
13 a second active state of the communication session which follows an inactive state
14 of the communication session.” As can be seen, Claim 37 recites all the novel and
15 improved computer functionality features as discussed above in respect to Claim
16 32, but also recites specific use of virtual sessions, as are now well recognized to
17 be important additional security and fast-session-restart efficiency functions to be
18 used with the functions of application-synchronization,” “Android data messages,”
19 and “background application refresh.” Hence Claim 37 of the ’844 patent
20 specifically recites the same improved computerized functionality as discussed in
21 the paragraph above in connection with Claim 32 of the ’844 patent. Additionally,
22 Claim 37 of the ’844 patent recites a more efficient and secure computer software
23 functionality by inserting a virtual sessions layer below the application layer. That
24 this is an important, efficient and more secure computer functionality is evidenced
25 by the fact that it is now required practice that the Android data-push messages and
26 all other types of Android client-server messages need to be sent on a secure
27 virtual session known as transport layer security (TLS).

1 56. Claim 46 of the '844 patent recites a client-side method for use with a
2 mobile unit that communicates with a particular server. Claim 46 of the '844
3 patent recites: “the method comprising:” “receiving from the user of the particular
4 mobile unit an indication of a type of information of interest to the user;” “the
5 particular mobile unit receiving from the particular server a server response that
6 includes an indication of availability of information corresponding to the type of
7 information of interest to the user;” “and the particular mobile unit sending to the
8 particuiar (sic) server a request, wherein the second request is automatically
9 generated by the particular mobile unit, without requiring user action; and” “the
10 particular mobile unit receiving from the particular server the information
11 corresponding to the type of information of interest to the user.” The claim
12 language of Claim 46 of the '844 patent provides a new mobile-computer
13 functionality that allows a mobile unit to keep a user up to date with information
14 that becomes available on a server. The mobile device receives from the user
15 information indicative of one or more user interests. From time to time, the server
16 will acquire new information that is of interest to the user. When such information
17 becomes available, the mobile unit receives a notification message such as an
18 Android data message telling the mobile unit that such information has become
19 available at the server. When the mobile unit receives the data message
20 notification for information that corresponds to the user interest, the mobile unit
21 then sends an automated request to have the information of interest downloaded to
22 the mobile unit without the need for user interaction. This functionality can be
23 described as client-server synchronization, or background application refresh,
24 implemented using “Android data messages” that are sent in accordance with the
25 availability of new information of interest to the user. This claim describes
26 specific novel and non-obvious computer functionality that has been widely
27 adopted and in common use all over the globe in modern mobile handsets and
28 application servers. The user indicates a user interest, and the application in the

1 client-side mobile handset is kept up to date and synchronized with the
2 corresponding information as it becomes available or otherwise updated in the
3 server. This makes for more efficient air interface usage (no need to download
4 unwanted content over the air) and also makes the user interface more efficient as
5 well (streamlined to the user interest and less cluttered inbox type interface). All
6 of the discussion of novel and improved computer functionality as discussed in the
7 paragraph above in connection with Claim 32 of the '844 patent also applies here
8 directly to Claim 46 of the '844 patent.

9 57. Claim 22 of the '395 patent recites a server-side method for use with a
10 server that communicates with a particular mobile unit. Claim 22 of the '395
11 patent recites that: "the particular mobile unit is configured to wirelessly receive
12 pushed information, and to present to the user via the graphical user interface a
13 selectable indication, such that when the selectable indication is selected by a user
14 selection, a further content available for downloading will be downloaded to the
15 particular mobile unit." In Claim 22 of the '395 patent, the server performs the
16 following functions: "causing a communication push message to be wirelessly
17 transmitted to the particular mobile unit, wherein the communication push message
18 contains information related to the further content in response to the user selection,
19 wherein the information related to the further content relates to the information
20 item that comports with the user interest indication," "receiving a client-request
21 packet wirelessly coupled from the particular mobile unit in response to the user
22 selection, the request packet indicating a request to download the further content;"
23 "wherein the communication push message acts as a notification to allow the user
24 to selectively download the further content only if the user is interested in
25 receiving the further content." Other aspects of the Claim 22 of the '395 patent
26 explain that the push message is not sent as an immediate response to a client-
27 request packet, and that the server sends the requested information. The claim
28 language of Claim 22 of the '395 patent provides a specific improvement in

1 computer functionality in client-server mobile communication systems. The push
2 message contains information related to the further content that specifically
3 comports with a predefined user interest indication. This allows the flow of
4 pushed content to be controlled to only relate to content already identified to be of
5 subject matter that is of interest to the user. The further information available on
6 the server ready to be downloaded thus has been pre-filtered based on user interest
7 information. This particular version of the claimed invention also allows to the
8 further information to be downloaded in response to a user selection. This type of
9 push-assisted client-server system functionality was novel and has been adopted in
10 modern push based mobile systems. This can be where a user identifies categories
11 of interest, or where the network keeps track of user actions and learns the interests
12 of the user. This innovation represents a specific advancement in computer
13 functionality that enables push based mobile client-server communications systems
14 to only send filtered pushes to the user. Without the recited functionality, many
15 modern push-based applications would not be able to function as efficiently as they
16 do today. In modern Android systems, this user-selection functionality is partially
17 implemented using the ubiquitous “notifications panel.” The ability to limit certain
18 push messages according to user interest allows the notification panel to not be
19 overloaded with irrelevant push information. The notifications panel allows the
20 user to only select the pushed content that is currently still of interest to the user.
21 This is very important to allow push based mobile client-server systems to be
22 practical and streamlined to the user interest and to the user’s current activities and
23 interests at the time the push message was received and all the way to well after the
24 message was received.

25 58. Claim 1 of the ’811 patent recites a server-side method for use with a
26 server that communicates with a particular mobile unit. Claim 1 of the ’811 patent
27 recites a method comprising: “receiving a user interest indication associated with
28 the particular user, wherein the user interest indication identifies one or more user

1 preferences used to identify information that comports with the user interest
2 indication;” “receiving via the packet switched data network a location indication,
3 wherein the location indication identifies at least an approximate geographical
4 location of the particular mobile unit;” “causing information relating to the
5 information item to be coupled from a network server (...) without the need to
6 continuously maintain an active user-interactive client-server application layer
7 session between the network server and the particular mobile unit between a first
8 time when the user interest indication is received to a second time when the
9 particular mobile unit receives the one or more data packets;” “wherein the one or
10 more data packets are coupled at least partially via a virtual communication session
11 implemented at one or more layers below the application layer;” “wherein the
12 virtual communication session is configured to be transitioned from an initial
13 active state to an inactive state, and later to be transitioned from the inactive state
14 back to the active state, (...)” This claim language specifically recites novel and
15 non-obvious computer functionality that enables improved better mobile client-
16 server mobile applications processing and protocols. In such a system, unlike
17 desktop based searching and web browsing, the mobile unit can identify a user
18 interest, and the by moving around, can keep the server informed of the mobile
19 unit’s current location. To make this work efficiently for use with many mobile
20 different users and many different application servers sharing the cellular or other
21 type of air interface all at once, virtual sessions are used. That is, a session is
22 established and is used to upload the user interest. The virtual session can be
23 intermittently reactivated to allow geo-location updates to be sent as well. The
24 virtual session can also be reactivated to allow the geographical web browsing
25 search results to be pushed or otherwise downloaded when the server finds results
26 of interest to the user in the user’s current local geo-location. This type of
27 geographical web browsing functionality was novel and unobvious at the time, but
28 has since become a common practice.

59. Claim 1 of the '395 patent recites a server-side method for use with a server that communicates with a particular mobile unit. Claim 1 of the '395 patent recites a method comprising: "receiving a user interest indication associated with the particular user, wherein the user interest indication identifies one or more user preferences used to identify information that comports with the user interest indication;" "receiving via the packet switched data network a location indication, wherein the location indication identifies at least an approximate geographical location of the particular mobile unit;" "identifying an information item that comports with the user interest indication and is associated with the location identified in the location indication; and" "causing information relating to the information item to be coupled via the packet switched data network to the particular wireless packet access station so that the particular wireless packet access station can wirelessly transmit the information relating to the information item via one or more unsolicited pushed messages using one or more packet headers addressed to the particular mobile unit" "without the need to continuously maintain an active user-interactive client-server application layer session (...)." All of the discussion of novel and improved computer functionality as discussed in the paragraph above in connection with Claim 1 of the '811 patent also applies here directly to Claim 1 of the '395 patent. Additionally, in Claim 1 of the '395 patent, the information relating to the information item is specifically recited to be sent one or more unsolicited pushed messages using one or more packet headers addressed to the particular mobile unit. This particular embodiment of the invention specifically introduced the efficient functionality whereby unsolicited pushed messages using one or more packet headers addressed to the particular mobile unit could be used as the mechanism to send the actual geographical web browsing search results to the mobile unit. This is a very efficient way to use the push channel to send intermittent data on wireless channels to reduce the need to maintain and reactivate traditional client-server connections which take up undue

1 air time when multiplied by the many different users all sharing the air interface at
2 the same time. As such, the method of Claim 1 of the '395 has found use in many
3 fielded client-server mobile application systems since the time the invention was
4 made in late 1998.

5 60. Claim 90 of the '139 patent recites a server-side method for use with a
6 server that communicates with a particular mobile unit. Claim 90 of the '139
7 patent has similar features to Claim 1 of the '395 patent as discussed in the
8 paragraph above. Hence all of the discussion of novel and improved computer
9 functionality as discussed in the paragraph above in connection with Claim 1 of the
10 '395 patent also applies here directly to Claim 90 of the '139 patent. Also, because
11 all of the discussion of novel and improved computer functionality discussed two
12 paragraphs connection with Claim 1 of the '811 patent also applies directly to
13 Claim 1 of the '395 patent, that discussion also applies directly here to Claim 90 of
14 the '139 patent. The key difference between Claim 90 of the '139 patent and
15 Claim 1 of the '395 patent lies in the first recited method action. Claim 90 of the
16 '139 patent recites: "receiving a user interest indication associated with the
17 particular user, wherein the user interest indication identifies one or more user
18 preferences used to identify advertisements of potential personal interest to the
19 particular user;" The identifying and causing actions of Claim 90 are also different
20 in how they start: "identifying a particular advertisement that comports (...)" and
21 "causing information relating to the particular advertisement to be coupled (...)." Hence the main difference is that while Claim 1 of the '395 patent deals with a
22 user interest relating to a user preference used to identify an information item,
23 Claim 90 of the '139 patent deals with a user interest relating to a user preference
24 used to identify advertisements of potential personal interest to the particular user.
25 Essentially the information item of interest of Claim 1 of the '395 patent is
26 substituted for advertisements of interest in Claim 90 of the '139 patent. Hence all
27 statements regarding the novelty and the expanded and improved computer
28

1 functionality as described above in connection with Claim 1 of the '395 and Claim
2 1 of the '811 patent apply equally to Claim 90 of the '139 patent.

3 61. Claim 22 of the '139 patent recites a server-side method for use with a
4 server that communicates with a particular mobile unit. Claim 22 of the '139
5 patent recites a method comprising: “receiving a user interest indication associated
6 with the particular user, wherein the user interest indication identifies one or more
7 user preferences used to determine one or more types of content the user desires to
8 receive via one or more unsolicited pushed messages at the particular mobile unit;”
9 “receiving via the packet switched data network a location indication that was
10 wirelessly coupled by the particular mobile unit to the particular local broadcast
11 domain entity;” “causing a search to be performed over a plurality of sets of
12 content to identify, if present, a resulting content that is categorized according to
13 the user interest indication and is associated with a point of presence located in a
14 vicinity of the location identified in the location identification indication; and”
15 “causing information relating to the resulting content to be coupled via the packet
16 switched data network to the particular broadcast domain entity so that the
17 particular broadcast domain entity can wirelessly transmit the one or more
18 unsolicited pushed messages using packet headers addressed to the particular
19 mobile unit to automatically notify the particular mobile unit about the resulting
20 content without the need to continuously maintain an active client-server session
21 between a network server of the one or more network servers and the particular
22 mobile unit between a first time when the user interest indication is received and a
23 second time when the particular mobile unit receives the one or more unsolicited
24 pushed messages.” All of the discussion of the novel and non-obvious computer
25 functionality discussed two paragraphs above in connection with Claim 1 of the
26 '395 patent also apply to Claim 22 of the '139 patent. Claim 22 of the '139 patent
27 additionally recites even further novel computer functionality in that the location
28 information is derived via a local broadcast domain entity, for example a WiFi

1 hotspot or similar wireless local area network access point as are now in common
2 use in modern mobile systems. In Claim 22 of the '139 patent, the content
3 searched for specifically corresponds to a point of presence that comports with the
4 user interest and is located in a vicinity of the mobile unit's current location. This
5 is a novel mobile computing functionality that takes advantage a network of local
6 broadcast domain entities such as WiFi hotspots and allows this lower cost
7 connection to be used to perform location based services that allow a mobile unit
8 to find a nearby point of presence of a specific type of interest to the user.

9 62. Claim 43 of the '139 patent recites a server-side method for use with a
10 server that communicates with a particular mobile unit. The claim language of
11 Claim 43 of the '139 is almost identical to the claim language of Claim 22 of the
12 '139 patent, except the local broadcast domain is substituted with a cellular base
13 station. In Claim 43, the location could either come from the cellular base station
14 or from GPS type information coupled via the cellular base station from the mobile
15 unit. Hence everything that was said above with respect to Claim 22 of the '139
16 patent and Claim 1 of the '395 patent regarding specifically recited novel and non-
17 obvious computer functionality equally apply to Claim 43 of the '139 patent. The
18 only difference being that the location information is transmitted via a cellular base
19 station.

20 63. The technology claimed in the patents in suit does not preempt all
21 ways of using client-server computing architectures or the use of all
22 communication session technologies, or any other well-known or prior art
23 technology.

24 **C. Advantage Over the Prior Art**

25 64. At the time the Inventors were developing and patenting their
26 inventions, wireless Internet-enabled devices and services were in their infancy.
27 Internet access to wireless devices was not in mainstream use. Basic wireless
28

1 browser and push functions were available in some of the earliest Internet-enabled
2 handhelds, but nothing near what is in common use today.

3 65. Today's wireless devices often include a large plurality of Apps, and
4 each separate App has its own push notification channel, and the push messages
5 can be sent over both the cellular data and the WiFi channels. At relevant times,
6 wireless Apps were not available to provide effective user-interest and
7 geographical web browsing functions. Push services were not yet available that
8 allowed similar functionality as the geographical web browser. The concept of
9 separate Apps with dedicated push channels to each App as regulated by a packet
10 filter and an application-specific-ID field in the push packet header was not yet
11 available.

12 66. The patented inventions disclosed in the '139 patent, the '395 patent,
13 the '811 patent, and the '844 patent provide many advantages over the prior art,
14 and in particular improve the operations of communications between client-side
15 wireless mobile units and remote servers.

16 67. Many specific novel and non-obvious advantages of the asserted
17 claims over the prior art are described above in section IV. B., specifically in the
18 paragraphs that deal with the detailed discussion of exemplary asserted claims and
19 their advantages that they provided to computer functionality over and above the
20 prior art at the time that the invention was made. The paragraphs below provide
21 additional details, insights, and alternative views regarding the novelty of the
22 overall portfolio and the asserted claims.

23 68. For example, the patented invention provides systems and methods to
24 enable a mobile using to maintain a first network connection with a central server
25 and to control information flow on this connection using information received on
26 an auxiliary channel.

27 69. Another advantage of the patented inventions is providing systems
28 and methods to enable separate Apps in the user mobile unit to stay separately

1 connected to their respective corresponding application server via a separate push
2 channel for that App. Each separate push channel can be implemented in such a
3 way that there is no need to continuously remain connected because each such
4 channel can preferably maintain security parameters and also be deactivated and
5 reactivated with an abbreviated security handshake procedure.

6 70. Certain embodiments of the patented invention also contemplated that
7 the push operations would often occur over a low-power local area network
8 channel like a local WiFi channel. While such functionality is common today, the
9 earliest mobile units in their infancy at the time with web browser functionality
10 only used cellular channels like SMS and wireless HTTP. The prior art did not
11 contemplate push services that would allow wireless Internet data-channel roaming
12 between a data access channel provided by the cellular service operator network
13 and a data access channel provided by a wireless access point such as a WiFi
14 access point.

15 71. The present invention contemplates that some of the inventive
16 methods can be used with user wireless mobile devices that provide both cellular
17 data connectivity and WiFi data connectivity and roam between the two access
18 types. For example, the wireless mobile unit can configure the push notification
19 service for a given App using a first wireless interface, such as cellular Internet
20 channel, and later respond to a push message for that App that came in over a
21 second wireless interface, such as a WiFi channel. In a claimed embodiment, in
22 response to the push, the App will perform automated background application
23 refresh type operations.

24 72. Certain embodiments of the present invention provide specific
25 location-based types of push services that were not available in the prior art. For
26 example, a user interest indication can be provided to the server-side application
27 from either the mobile unit of a third party or can otherwise be inferred by the
28 server based on user actions. In such cases, the mobile unit's GPS coordinates or

1 the mobile unit's data access connection point can be ascertained and converted to
2 a geographical location associated with the data access point to which the mobile
3 unit is presently connected. The server-side application can thus keep track of the
4 mobile unit's present location. Push events can be triggered when the mobile unit
5 becomes in a local area where a point of presence is available related to the user
6 interest. At such time the push notification is sent to the mobile unit.

7 73. As such, another advantage of the patented inventions is that a user
8 may now "surf the web" or navigate mobile applications based on geographic
9 information such as GPS information.

10 74. An additional advantage of the patented inventions includes
11 technology to provide local broadcast information to automatically control a
12 network application using a packet filter.

13 75. Yet another advantage of the patented inventions includes the ability
14 to provide a user with a means to receive information from a first connection, such
15 as a wireless network connection, based on the user's position.

16 76. Another advantage of the patented inventions is that it allows an
17 application, like a web browser or another mobile app, to control the flow of
18 information a device may received based on a location based data, such as GPS
19 data.

20 77. An additional advantage of the patented inventions include a mobile
21 unit that can receive at least one transmission from a second wireless network or
22 interface and then generate a request from the first wireless network connection in
23 order to control navigation of an application, such as a mobile app.

24 78. Another advantage of the patented inventions is that a server located
25 on a network may receive these requests generated based on the above described
26 transmissions.

27 79. Yet another advantage of the patented invention is that a mobile unit
28 allows for the use of filters, or preferences, that may be applied to the automated

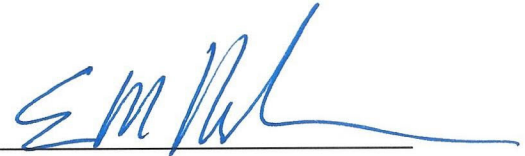
1 control, allowing certain information to be selectively accepted or rejected, thereby
2 controlling the information received by a mobile unit.

3 80. Because of these significant advantages that can be achieved through
4 the use of the patented invention, the '139 patent, the '395 patent, the '811 patent,
5 and the '844 patent present significant commercial value for companies like Gucci.
6 Indeed, while such technology did not exist prior to the invention, since the
7 issuance of the patents in suit, many technologies related to location-based types of
8 push services have emerged, utilizing features claimed in the '139 patent, the '395
9 patent, the '811 patent, and the '844 patent.

10 ***

11 I declare under penalty of perjury under the laws of the United States
12 of America that the foregoing is true and correct. Executed in Escazu, Costa Rica
13 on August 23, 2022.

14 Respectfully submitted,

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18 Eric Dowling
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